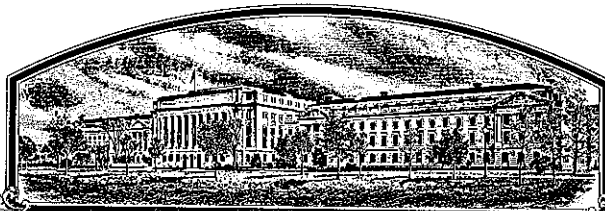


No.

8300015



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pure Line Seeds, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA

'Arctic'



In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington
this 26th day of March in
the year of our Lord one thousand nine
hundred and eighty-four.

Attest:

Kenneth E. Evans
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

ASSIGNMENT OF CERTIFICATES PLANT VARIETY PROTECTION AS COLLATERAL SECURITY

PURE LINE SEEDS, INC., a Washington corporation (hereinafter "Borrower"), for valuable consideration, receipt of which is acknowledged, hereby assigns and transfers, for collateral security purposes, to U.S. BANK OF WASHINGTON, NATIONAL ASSOCIATION (hereinafter "Bank"), and grants to Bank a security interest in all of Borrower's right, title and interest in, to and under the following Certificates of Plant Variety Protection issued to Borrower by the United States Department of Agriculture, Agriculture Marketing Service, Plant Variety Protection Office:

Plant Variety No.	Crop Kind	Name of Variety	Applicant	Status, All Occs	Cert. Issue Date	Record:
770002	Pea	Banff	Pure Line Seeds	I	6/7/77	696
7700023	Pea	Kodiak	Pure Line Seeds	I	6/7/77	697
7900099	Pea	Tahoe	Pure Line Seeds	I	1/2/80	991
8200186	Pea	Sundance	Pure Line Seeds	I	10/27/83	1541
8300015	Pea	Arctic	Pure Line Seeds	I	3/26/84	1561
8400031	Pea	Misty	Pure Line Seeds	I	12/21/84	1756
8500041	Pea	Sunfire	Pure Line Seeds	I	12/27/85	1923
8500042	Pea	Early Sweet 41	Pure Line Seeds	I	10/31/85	1924
8500043	Pea	Bold	Pure Line Seeds	I	10/31/85	1925
8900065	Pea	Sun-Up	Pure Line Seeds	I	3/29/91	2792
8900067	Pea	Sentry	Pure Line Seeds	I	7/31/19	2794

Together with all extensions and renewals of the foregoing Certificates, together with all goodwill associated with said Certificates and together with all proceeds thereof regardless of the form thereof and however evidenced. The foregoing Certificates of Plant Variety Protection and related rights and proceeds are hereinafter referred to as "the Collateral."

Borrower further agrees that its assignment of and grant of a security interest in the Collateral shall be subject to and governed by the following terms and conditions:

1. **INDEBTEDNESS SECURED.** The assignment and security interest granted above shall secure all past, present and future indebtedness of Borrower to Bank, including all interest thereon, whether direct or indirect, absolute or contingent, including, but not limited to, indebtedness

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S) Pure Line Seeds, Inc.		2. TEMPORARY DESIGNATION		3. VARIETY NAME NORSE ARCTIC	
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) P.O. Box 8866 Moscow, Idaho 83843		5. PHONE (Include area code) 208-882-4422		FOR OFFICIAL USE ONLY PVPO NUMBER 8300015	
6. GENUS AND SPECIES NAME Pisum sativum		7. FAMILY NAME (Botanical) Leguminasae		FILING DATE 11/9/82 TIME 1:30 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	
8. KIND NAME Pea		9. DATE OF DETERMINATION 7-31-81		AMOUNT FOR FILING \$ 1,000 DATE 11/9/82	
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation				AMOUNT FOR CERTIFICATE \$ 500.00 DATE 2/16/84	
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Washington				12. DATE OF INCORPORATION 1948	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Richard S. Lowe Pure Line Seeds, Inc. Box 8866 Moscow, Idaho 83843					
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED					
a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)		c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)			
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement		d. <input type="checkbox"/> Exhibit D, Additional Description of the Variety			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No					
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified			
18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input type="checkbox"/> No					
19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No					
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF APPLICANT

DATE

Exhibit A

Origin and Breeding History of the Variety

ARCTIC N/S 1/31/84

Large originated in the Spring of 1979 by a hand pollinated cross between the variety Spring (male parent) and the F₁ hybrid of the cross (Banff X Freezer 108) (female parent). Freezer 108 is an early maturing Pure Line Seeds breeding line with small sieve size and dark berry color.

Subsequent generations F₂ thru F₅ were increased, then in the F₅ four plants were selected and bulked. Subsequent generations F₅ thru F₈ were further increased. Then in the eighth generation ten plants were selected and bulked. Increase of this bulk has continued to this time.

Field observations and trials have indicated a stable and true to type variety with no observable variants since the eighth generation.

8300015

Exhibit B

Data Indicative of Novelty

Novelty is based on the unique combination of the following characters:

~~ARCTIC~~ R/s 1/31/54

~~Novelty~~ is a freezing variety most closely resembling the variety Banff but differs by being approximately 14 cm. taller.

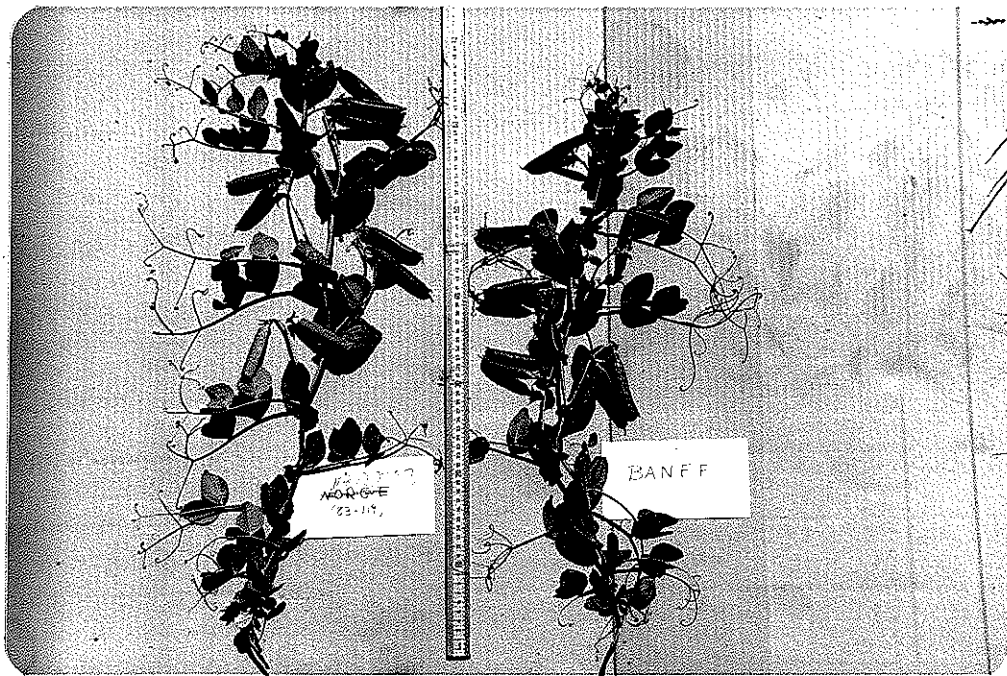
Exhibit B (Addendum)

<u>Location</u>		<u>Plant Height (cm)</u>
(1) Field (production)	Banff	60.0
	ARCTIC Norve (119)	69.0
(2) Wire trials	^{MS} Banff	56.0
	ARCTIC Norve (119)	68.0
(3) Plot observation trials	Banff	52.0
	ARCTIC Norve (119)	64.0
Banff average		56.0
ARCTIC Norve average		67.0

* Plant height information based on an average of 100 plants.

EXHIBIT B.

8800015



ARCTIC ↑

BANFF ↑



↑ BANFF

↑ ARCTIC

R/S

UNITED STATES DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE
 LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
 NATIONAL AGRICULTURAL LIBRARY
 BELTSVILLE, MARYLAND 20705
OBJECTIVE DESCRIPTION OF VARIETY
PEA (PISUM SATIVUM)

EXHIBIT C
 (Pea)

NAME OF APPLICANT(S)

Pure Line Seeds, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

P.O. Box 8866
 Moscow, Idaho 83843

VARIETY NAME OR TEMPORARY DESIGNATION

~~NORGE~~ **ARCTIC** *PLS*

FOR OFFICIAL USE ONLY

PVPO NUMBER

8300015

Place the appropriate number that describes the varietal character in the boxes below.

Place a zero in first box (e.g. **0 8 9** or **0 9**) when number is either 99 or less or 9 or less.**1. TYPE:**

1 1 = GARDEN 2 = FIELD 3 = EDIBLE-PODDED

2. MATURITY:

9-10 Node number of first bloom: **0 6 0** No. of days to processing **1 2 8 0** Heat Units
 No. of days Earlier than 1 = ALASKA WR 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL
0 2 No. of days Later than **1** 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

3. PLANT HEIGHT:

0 6 7 CM. HIGH (90 cm) (57 cm)
2 2 Cm. Shorter than **1** 1 = ALASKA WR 2 = THOMAS LAXTON WR 3 = LITTLE MARVEL
1 0 Cm. Taller than **3** 4 = WANDO 5 = ALDERMAN WR 6 = AUSTRIAN WINTER

4. VINE:

1 Habit: 1 = DETERMINATE 2 = INDETERMINATE **2** Stockiness: 1 = SLIM (Alaska) 3 = HEAVY (Alderman)
 2 = MEDIUM (Thomas Laxton WR)
1 Branching: 1 = NONE (Alaska) 2 = 1-2 BRANCHES (Little Marvel) 3 = MORE THAN 2 BRANCHES (Dwarf Gray Sugar)
2 Internodes: 1 = STRAIGHT 2 = ZIG ZAG **1 6** NUMBER OF NODES

5. LEAFLETS:

3 Color: 1 = LIGHT GREEN (Alaska WR) 2 = MED. GREEN (Thomas Laxton WR) 3 = DARK GREEN (Alderman)
 4 = OTHER (Specify)
3 Wax: 1 = NONE 2 = LIGHT 3 = MEDIUM **2** 1 = NOT MARBLED 2 = MARBLED (Alaska)
 4 = HEAVY
3 Number of leaflet pairs: 1 = NOT PAIRED 2 = ONE 3 = TWO 4 = THREE OR MORE

6. STIPULES:

2 1 = LACKING 2 = PRESENT **1** 1 = NOT CLASPING 2 = CLASPING
2 1 = NOT MARBLED 2 = MARBLED **3** Size (Compared with leaflets): 1 = SMALLER 2 = SAME
 3 = LARGER
2 Color (Compared with leaflets): 1 = LIGHTER 2 = SAME 3 = DARKER

7. FLOWER COLOR:

2 VENATION **1** STANDARD **1** WING **1** KEEL 1 = WHITE 2 = GREENISH 3 = LAVENDER
 4 = PURPLE 5 = RED
 6 = OTHER (Specify)

8. PODS:

Shape: 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = CURVED End: 1 = POINTED (Alderman) 2 = BLUNT (Alaska)
 Color: 1 = LIGHT GREEN (Alaska WR) 2 = MEDIUM GREEN 3 = DARK GREEN (Alderman) 4 = OTHER (Specify) _____
 Surface: 1 = SMOOTH 2 = ROUGH Surface: 1 = SHINY 2 = DULL
 Borne: 1 = SINGLE 2 = DOUBLE 3 = SINGLE AND DOUBLE 4 = SINGLE, DOUBLE, & TRIPEE
5 = DOUBLE & TRIPLE 6 = TRIPLE 7 = OTHER (Specify) _____
 CM. LENGTH MM. WIDTH (Between sutures) NO. SEEDS PER POD

9. SEEDS (95-100 Tenderometer):

Color: 1 = LIGHT GREEN 2 = GREEN 3 = DARK GREEN 4 = OTHER (Specify) _____
 Seive: % AVERAGE

SEEDS (Dry, Mature):

Shape: 1 = FLATTENED 2 = ANGULAR 3 = OVAL 4 = ROUNDED
 Surface: 1 = SMOOTH 2 = DIMPLED 3 = WRINKLED Surface: 1 = SHINY 2 = DULL
 Color Pattern: 1 = MONOCOLOR 2 = MOTTLED 3 = STRIPED 4 = DOTTED
 Primary Color: 1 = CREAMY-WHITE 2 = CREAM & GREEN 3 = LIGHT GREEN 4 = MEDIUM GREEN
5 = DARK GREEN 6 = BLUE-GREEN 7 = YELLOW 8 = BROWN 9 = RED
 Secondary Color: 10 = GRAY 11 = BLACK
 Hilum Floor Color: 1 = WHITE 2 = TAN 3 = BLACK Cotyledon Color: 1 = GREEN 2 = YELLOW 3 = ORANGE
 GRAMS PER 100 SEEDS

10. DISEASE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

FUSARIUM WILT NEAR-WILT DOWNY MILDEW
 ASCOCHYTA BLIGHT POWDERY MILDEW BACTERIAL BLIGHT
 MOSAIC PEA ENATION MOSAIC YELLOW BEAN MOSAIC
 OTHER (Specify) _____

11. INSECT: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

APHIDS OTHER (Specify) _____

12. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Leafiness	Banff	Fresh Seed Color	Spring
Leaf Color	Banff	Mature Seed Color	Banff
Pod Color	Banff	Seed Shape	Banff
Pod Shape	Banff	Plant Habit	Banff

COMMENTS: